

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to FIG. 1. This sheet, which includes FIG. 1, replaces the original sheet including FIG. 1. In FIG. 1, reference numeral indicating weld 69 has been added.

Support for this amendment may be found, for example, in paragraphs [0040]-[0042] of the published application. According, no new matter has been added.

## **REMARKS**

This is in response to the Office communication dated May 30, 2007. Applicant respectfully requests reconsideration and allowance of the present application in view of the above amendments and following remarks.

### **Claim Amendments**

Claims 58, 59, 60, 62 and 63 have been amended. Applicant respectfully submits that no new matter has been added.

Additionally, independent claim 70 has been added substantially corresponding to claims 58 and 64 and independent claim 71 has been added substantially corresponding to claims 65 and 69. Applicant respectfully submits that no new matter has been added.

### **Drawings**

The present Office Action objects to the drawings as not showing every features of the invention specified in the claims. While Applicant disagrees with the objection, Applicant has amended FIG. 1 to include reference number 69 generally representing the weld to facilitate advancement of the present application. Additionally, paragraph [0042] has been amended to reflect the amendment to FIG. 1. Applicant respectfully submits that no new matter has been added.

Regarding the word “mold” in claim 58, Applicant again disagrees with the objection. Nevertheless, Applicant has deleted the word “mold” from claim 58 to facilitate advancement of the present application.

Applicant respectfully submits that the objections to the drawings may now be withdrawn.

### **Rejections under 35 U.S.C. § 112**

Claims 59-69 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. In particular, the limitation “said first central bore” in claim 60 and “said second end region of said central bore” in claim 64 lacks antecedent basis. With this amendment, Applicant has provided proper antecedent basis for these limitations.

Regarding the term “proximate,” Applicant respectfully submits that this term is definite as used in claims 59, 62 and 65. For example, in *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 221 USPQ 1 (Fed. Cir. 1984), the court held that the phrase “close proximity” in a claim is not unduly indefinite under the circumstances even though it is not specifically or precisely defined in the specification. Moreover, in *Andrews Corp. v. Gabriel Electronics, Inc.*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988), the court held that “the criticized words are ubiquitous in patent claims. Such usages, when serving reasonably to describe the claimed subject-matter to those of skill in the field of the invention, and to distinguish the claimed subject matter from the prior art, have been accepted in patent examination and upheld by the courts.” Applicant respectfully submits that the term “proximate” as used in the claims is ubiquitous in patent claims and reasonably conveys the scope of the invention to one of ordinary skill in the art would. Nevertheless, Applicant has amended claims 59, 62 and 65 to facilitate advancement of the present application.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112 in view of the above remarks.

#### Rejections under 35 U.S.C. § 103(a)

##### I. 35 U.S.C. § 103(a) – Schwarzkopf:

Claims 58-63 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,573,185 to Schwarzkopf (hereinafter referred to as “Schwarzkopf”).

Applicant respectfully traverses this rejection and requests reconsideration.

Independent claim 58 generally recites, *inter alia*, a seal ring having a thermal conductivity that is lower than the tip retainer. Applicant appreciates the Examiner’s acknowledgement that Schwarzkopf does not disclose or suggest a seal ring comprising a material having a lower thermal conductivity than the tip retainer (see page 5 of the present Office Action). Applicant respectfully disagrees with the conclusion that it would have been obvious to modify the ring 9 of Schwarzkopf to include a material having a lower thermal conductivity compared to the metal sleeve 7 and/or the body 1.

Applicant respectfully submits that the present Office Action fails to provide sufficient support for the proposition that it would have been obvious to modify the ring 9 of Schwarzkopf to include a material having a lower thermal conductivity compared to the metal sleeve 7 and/or the body 1. In the recent Supreme Court decision *KSR Int'l Co. v. Teleflex Inc.*, the Court held that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obvious.” See *KSR Int'l Co. v. Teleflex Inc.*, No. 04-1350, slip op. at 14 (U.S. Apr. 30, 2007) quoting *In re Kahn*, 441 F.3d 977, 988 (Currently Amended Fed. 2006). A patent claim reciting several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *Id.*

The present Office Action acknowledges that Schwarzkopf does not disclose or suggest a seal ring comprising a material having a lower thermal conductivity than the tip retainer, but nevertheless states that it would have been obvious to modify Schwarzkopf since “[v]arious materials having different thermal conductivity [sic] are well known in the art” and that it would have been obvious “for heat insulation, ease in fabrication, prevent corrosion, etc.” (see page 5 of the present Office Action). Applicant respectfully submits that these are merely conclusory statements.

As the Examiner may surely appreciate, various materials are known having either a *low* or a *high* thermal conductivity. Therefore, the mere fact that “[v]arious materials having different thermal conductivity [sic] are well known in the art” as suggested in the present Office Action is insufficient to support a prima facie case that it would be obvious for a nozzle tip to include a seal ring having a *lower* thermal conductivity than a tip retainer as recited in independent claim 58.

Moreover, the statement in the present Office Action that it would have been obvious to modify the ring 9 of Schwarzkopf to include a material having a *lower* thermal conductivity than a tip retainer “for heat insulation, ease in fabrication, prevent corrosion, etc.” is merely a conclusory statement which is unsupported by any facts or articulated reasoning. For example, Applicant respectfully submits that the present Office Action fails to provide any articulated reasoning as to why a seal ring having a material with a *lower* thermal conductivity than a tip retainer would ease the fabrication of the nozzle tip

or prevent corrosion of the nozzle tip as suggested in the present Office Action. In fact, Applicant directs the Examiner's attention to paragraphs [0040]-[0045] of the present Office Action which discuss some of the difficulties associated with welding the seal ring and tip retainer having different thermal conductivities. As the Examiner may appreciate, the fabrication process would likely be *easier* if the materials used for the tip retainer and the seal ring were exactly the same. Additionally, Applicant respectfully submits that the present Office Action fails to provide any articulated reasoning as to how or why it is desirable to provide a seal ring having a material with a *lower* thermal conductivity than a tip retainer "for heat insulation." Accordingly, Applicant submits that none of the statements noted above in the present Office Action provide sufficient articulated reasoning to support a *prima facie* case of obviousness under 35 U.S.C. § 103. Should the present rejections be maintained, Applicant respectfully requests that Office Action provides support for these statements.

Applicant also respectfully submits that the ring 9 of Schwarzkopf is not understood to be a seal ring as generally recited in the pending claims. Applicant respectfully submits that one of ordinary skill in the art would understand that the term "seal ring" as recited in the pending claims defines a structural element, i.e., a ring which helps join a nozzle to mold to prevent or reduce leakage or exclude contamination. Thus, for an element to be properly considered a "seal ring" as recited in the pending claims, the element must be configured to seal the nozzle against a mold. Applicant respectfully submits that the present Office Action appears to ignore the word "seal" as recited in the term "seal ring."

While Applicant appreciates the Examiner's duty to broadly define the terms used in the claims, this interpretation must reasonable and Applicant is unable to find any teaching or suggestion in Schwarzkopf that the ring 9 is a *seal ring* as would be *reasonably* understood by one of ordinary skill in the art, i.e., Applicant is unable to find any teaching or suggestion in Schwarzkopf that the ring 9 seals against a mold to prevent or reduce leakage or exclude contamination. More specifically, Schwarzkopf is understood to teach that the "ring 9 has a rearwardly flaring frustoconical front face 11," and that this rearwardly flaring frustoconical front face 11 "reduce[s] the pressure that is backwardly effective on the front face of the ring" (see column 2, lines 1-2). Therefore,

Applicant understands Schwarzkopf to teach a ring 9 having rearwardly flaring frustoconical front face 11 for directing molten plastic away from the nozzle, not for preventing or reducing leakage or excluding contamination. As such, Applicant respectfully submits that one of ordinary skill in the art would not understand the ring 9 of Schwarzkopf to be a “seal ring” as generally recited in the pending claims.

In fact, Schwarzkopf is understood to actually teach away from a seal ring as recited in the pending claims. In particular, if the ring 9 of Schwarzkopf *was* a seal ring as suggested in the present Office Action (i.e., it was configured to seal against the mold), then the rearwardly flaring frustoconical front face 11 of the ring 9 would not be able to reduce the pressure exerted by the molten plastic against the ring 9 because of the seal between the ring 9 and the mold. Accordingly, Applicants respectfully submit that the ring 9 of Schwarzkopf is not a seal ring as generally recited in the pending claims.

Applicant would also like to formally address the Examiner’s remarks on page 7 of the present Office Action indicating that “configured” to seal against a mold only means that an element has the “capability of sealing against a mold.” Applicant respectfully submits that one of ordinary skill in the art would understand the definition of “configure” to mean “to set up for operation especially in a particular way <a fighter plane *configured* for the Malaysian air force>” (see Merriam-Webster Dictionary). To continue the example used in the Merriam-Webster Dictionary, a fighter plane may be *capable* of being set up for the Malaysian air force, but isn’t *configured* for the Malaysian air force until the fighter plane is so set up. By way of further example, while Applicant’s representative may be *capable* of speaking German, Applicant’s representative does not know German and is therefore not *configured* to speak German. Accordingly, in addition to the remarks noted above, Applicant respectfully submits that the ring 9 of Schwarzkopf is not “configured” to seal against a mold. Nevertheless, Applicant has cancelled the language “configured to seal against at least a portion of a mold” in order to facilitate advancement of the present application.

Applicant understands that the present Office Action *now* alleges that the body 1 or the metal sleeve 7 of Schwarzkopf read on the tip retainer of the present application. Again, while Applicant appreciates the Examiner’s duty to broadly define the terms used in the claims, this interpretation must reasonable and Applicant respectfully submits that

the metal sleeve 7 of Schwarzkopf is not a tip retainer as this term is understood by one of ordinary skill in the art.

One of ordinary skill in the art would understand the term “tip retainer” to define a structural element, i.e., an element that is configured to retain a nozzle tip to a nozzle. In contrast, the metal sleeve 7 of Schwarzkopf is not understood to retain the removable nozzle element 4. In fact, the metal sleeve 7 of Schwarzkopf is only understood to protect the body 1 of the nozzle (see column 1, lines 16-17). Applicant is unable to find any teaching or suggestion in Schwarzkopf upon which one of ordinary skill in the art would *reasonably* understand the metal sleeve 7 to be a tip retainer as recited in the pending claims.

Applicant would like to formally address the remarks on page 7 of the present Office Action which indicate that FIG. 3 of Schwarzkopf shows a radial weld between a seal ring and a tip retainer as generally recited in the pending claims. As noted above, Applicant respectfully submits that the metal sleeve 7 of Schwarzkopf is not understood to be a tip retainer. Additionally, the ring 9 of Schwarzkopf is not understood to be a seal ring. Therefore, the weld 12 between the metal sleeve 7 and the ring 9 is not understood to be a radial weld *between a seal ring and a tip retainer*.

In addition, regarding the remarks on page 7 of the present Office Action, Applicant notes that the comments in the previous Response were directed to the previous Office Action which *only* alleged that the body 1 of Schwarzkopf read on the tip retainer of the present application. To this end, Applicant respectfully submits that Schwarzkopf does not disclose or suggest a tip retainer radially welded to a seal ring as generally recited independent claims 58 and 65. As discussed above, the ring 9 of Schwarzkopf is not understood to be a ring seal. Moreover, referring to FIG. 3, Applicant respectfully submits that Schwarzkopf clearly teaches that the inner weld 13 between the body 1 and the ring 9 is along the longitudinal length of the nozzle and is not radial. (See also, column 2, lines 52-55.)

Applicant also notes that independent claims 58 and 65 both generally recite, *inter alia*, that a substantially radially planar distal most end face of the seal ring is welded to a substantially radially planar distal most end face of the tip retainer. Again referring specifically to FIG. 3, Applicant respectfully submits that the inner weld 13 is not

between a substantially radially planar distal most end face of the body 1 and a substantially radially planar distal most end face of the ring 9.

Accordingly, Applicant respectfully submits that Schwarzkopf does not disclose or suggest a tip retainer radially welded to a seal ring as generally recited independent claims 58 and 65.

Claims 59-63 depend, either directly or indirectly, from independent claim 58. Therefore, Applicant respectfully submits that claims 59-63 are also allowable by virtue of their dependency from independent claim 58 in addition to their own patentable limitations.

Applicant further submits that the present Office Action fails to address many of the limitations recited in dependent claims 59-63. For example, claim 62 generally recites, *inter alia*, that the fourth end region of the seal ring further comprises a generally frustoconical outer surface having a maximum diameter substantially at a distal most end of the fourth end region. In contrast, Schwarzkopf teaches away from claim 52 since Schwarzkopf specifically teaches that the “ring 9 has a rearwardly flaring frustoconical front face 11” as can be seen in FIG. 2. Additionally, several of the claims recite various relationships between the inner and outer surface perimeters of the tip retainer and seal ring. Applicant also notes that independent claim 65 recites a limitation similar to claim 62, and that the present Office Action fails to address this limitation in independent claim 65 as well.

Accordingly, Applicant respectfully submits that Schwarzkopf does not disclose or suggest all of the limitations recited in claims 58-63 and respectfully submits that the rejection of claims 58-63 over Schwarzkopf may now be withdrawn upon reconsideration of the remarks made herein.

## II. § 103(a) – Reinehr in view of Moakes:

Claims 58-62 and 65-68 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 4,714,045 to Reinehr et al (hereinafter “Reinehr”) in view of U.S. Patent no 5,947,143 to Moakes et al. (hereinafter “Moakes”).



Claims 58-62 and 65-68 include two independent claims, namely, independent claims 58 and 65. Accordingly, Applicant will primarily direct the following comments towards independent claims 58 and 65.

Both independent claims 58 and 65 generally recite, *inter alia*, a seal ring having a thermal conductivity that is lower than the tip retainer. Applicant respectfully submits that Moakes does not disclose or suggest a seal ring comprising a material having a lower thermal conductivity than the tip retainer, nor has it even been asserted to provide such a teaching. Additionally, Applicant appreciates the Examiner's acknowledgement that Reinehr does not disclose or suggest a seal ring comprising a material having a lower thermal conductivity than the tip retainer (see page 6 of the present Office Action). Applicant respectfully disagrees with the conclusion that it would have been obvious to modify Reinehr to include a seal ring having a lower thermal conductivity compared to a tip retainer as generally recited in independent claims 58 and 65.

The rejection of claims 58-62 and 65-68 over Reinehr in view of Moakes relies on substantially the same conclusory statements as the rejection of claims 58-63 over Schwarzkopf discussed above regarding the selection of relative thermal conductivity between the seal ring and the tip retainer. In particular, while the present Office Action acknowledges that Reinehr does not disclose or suggest a seal ring comprising a material having a lower thermal conductivity than the tip retainer, the present Office Action nevertheless states that it would have been obvious to modify Reinehr since “[v]arious materials having different thermal conductivity [sic] are well known in the art” and that it would have been obvious “for heat insulation, ease in fabrication, prevent corrosion, etc.” (see page 6 of the present Office Action).

For at least the same reasons discussed above, Applicants respectfully submit that the present Office Action fails to provide *any* support for the naked assertions that the proposed modifications would obvious “for heat insulation, ease in fabrication, prevent corrosion, etc.” As such, Applicant respectfully submits that these are merely conclusory statements which do not provide sufficient articulated reasoning to support a *prima facie* case of obviousness under 35 U.S.C. § 103.

Claims 59-62 and 67-68 depend, either directly or indirectly, from independent claims 58 and 65. Therefore, Applicant respectfully submits that claims 59-62 and 67-68

are also allowable by virtue of their dependency from independent claims 65 and 68 in addition to their own patentable limitations.

Applicant further submits that the present Office Action fails to address many of the limitations recited in dependent claims 59-62 and 67-68. Accordingly, should the present rejection be maintained, Applicant respectfully requests that each pending claim be addressed on its merits.

Accordingly, Applicant respectfully submits that the combination of Reinehr and Moakes does not disclose or suggest all of the limitations recited in claims 58-63 and respectfully submits that the rejection of claims 58-62 and 65-68 over the combination of Reinehr and Moakes may now be withdrawn upon reconsideration of the remarks made herein.

Applicant would also like to formally address the Examiner's comments in the *Response to Arguments* section of the present Office Action noting that the "mold" is not a positively recited limitation (see page 7 of the present Office Action). While Applicant agrees with this statement (i.e., the mold *is not* an element of the claims in the present application), Applicant respectfully submits that it is not indefinite to define an element by reference to its environment without positively (or implicitly) claiming the environment. For example, in *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, F.2d 1565, 1575-76, 1 USPQ2d 1081, 1087-88 (Fed. Cir. 1986), the court held that it was not indefinite to recite that the claimed wheelchair have a "front leg portion .... so dimensioned as to be insertable through the space between the doorframe of an automobile and one of the seats thereof."

Accordingly, Applicant respectfully submits that none of the references, either alone or in combination, disclose or suggest all of the limitations recited in independent claims 58 and 65. Since the remaining claims depend, either directly or indirectly, from independent claims 58 and 65, Applicants respectfully submit that all of the pending claims are in condition for allowance and notification to that effect is earnestly requested.

Applicant also notes that claims 64 and 69 were only rejected under 35 U.S.C. § 112. Applicant has added independent claim 70 substantially corresponding to claims 58

and 64 and has added independent claim 71 substantially corresponding to claims 65 and 69. As Applicant believes that the rejection of claims 64 and 69 under 35 U.S.C. § 112 may now be withdrawn, Applicant respectfully submit that these claims are in condition for allowance and respectfully requests notification to the same.

For at least the reasons discussed above, Applicant submits that all pending claims are in condition for allowance. Early and favorable action is respectfully requested. The Commissioner is hereby authorized to charge payment of any additional filing fees under §1.16 associated with this communication or credit any overpayment to Deposit Account No. 50-1388.

The Examiner is invited to telephone Applicant's Attorney, Richard J. Musgrave, at the number listed below to facilitate advancement of the present application.

Respectfully submitted,

/richard joseph musgrave/

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